

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference HM-F348PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/015664	International filing date (day/month/year) 08 December 2003 (08.12.2003)	Priority date (day/month/year) 06 December 2002 (06.12.2002)
International Patent Classification (IPC) or national classification and IPC C04B 35/195, H05K 3/46		
Applicant HITACHI METALS, LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☒ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 11 June 2004 (11.06.2004)	Date of completion of this report 02 March 2005 (02.03.2005)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/015664

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☐ The international application as originally filed/furnished
- ☒ the description:
- pages _____ 1-8, 11-19 _____, as originally filed/furnished
- pages* _____ 9, 10 _____ received by this Authority on _____ 27 September 2004 (27.09.2004)
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ 3-5, 7-17 _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ 1, 2, 6 _____ received by this Authority on _____ 27 September 2004 (27.09.2004)
- pages* _____ received by this Authority on _____
- ☒ the drawings:
- pages _____ 1-11 _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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International application No.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	12	YES
	Claims	1-11, 13-17	NO
Inventive step (IS)	Claims	12	YES
	Claims	1-11, 13-17	NO
Industrial applicability (IA)	Claims	1-17	YES
	Claims		NO

2. Citations and explanations

Document 1: JP 2000-272960 A (Hitachi Metals, Ltd.), 3 October 2000

In document 1, cited in the search report, there are examples which correspond to the inventions here in composition and firing conditions.

For example, in the case of "sample No. 92" in this document the firing conditions are the same as for "sample No. 13" or "sample No. 17" in the examples of the present invention, and the composition thereof (especially the quantities of Bi and Na) is intermediate between the two.

Given this, document 1 appears to disclose ceramic compositions having similar texture and strength to the inventions here.

Therefore, these inventions (claims 1-11 and 13-17) are considered not to be novel and not to involve an inventive step, in the light of document 1.

However, no document is discovered which discloses or suggests ceramic compositions which comprise only the three constituents Al, Si and Sr and have a texture and strength specified in this invention.

Therefore, this invention (claim 12) is considered to be novel and to involve an inventive step.

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VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- 1) Claim 5, wherein "the matrix is monoclinic crystals", erroneously refers back to claim 3, wherein "the matrix is amorphous".
- 2) Claim 13, wherein "titanium oxide is the principal starting material", erroneously refers back to claims 10 and 12, which do not include Ti.
- 3) The descriptions of the constituent compositions of ceramic compositions in these inventions are not consistent. Thus, although claims 10-11 and the description, page 4, give 100 mass% as the limiting numerical value for the principal constituents, in each of examples 1-4 100 mass% is the limiting numerical value for all constituents (principal + secondary).
- 4) In Table 3, the description of the "ratio of peak intensities" for "samples No. 18 and 20" is not consistent with description of the "contained crystalline phase".